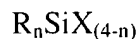


Amendments to and Listing of the claims:

Please cancel claims 1, 2, 5, 8, 9, 20, and 22-25, amend claims 10, 11, 12, 14-16, 18 and 21, and add claims 26-29 so that the claims read as follows:

1-2. (canceled)

3. (previously presented) A photo and thermally labile siloxane polymer which undergoes transformation to SiO₂-rich films by the elimination of β-substituted alkyl groups, obtained from the hydrolysis and condensation polymerization of an organosilane containing a β-substituted alkyl group, the organosilane having the general formula:



where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

R is an alkyl group having at least one but not more than two β-substituents that are electronegative and at least one but not more than two β-substituents on the β-substituted alkyl group, the β-substituent being selected from the group consisting of chlorine, bromine, fluorine, iodine, hydroxy, methoxy, ethoxy, and acetoxy;

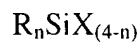
and wherein said siloxane contains silanol groups.

4. (previously presented) The siloxane polymer of claim 3 wherein the α-substituent is the same as the β-substituent on the alkyl group.

5. (canceled)

6. (previously presented) A photo and thermally labile siloxane polymer which undergoes transformation to SiO₂-rich films by the elimination of β-substituted alkyl groups,

obtained from the hydrolysis and condensation polymerization of an organosilane containing a β -substituted alkyl group, the organosilane having the general formula:



where n is 1;

X is a halogen selected from the group consisting of chlorine and bromine, or an alkoxy selected from the group consisting of methoxy and ethoxy substituents; and

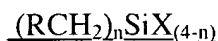
R is an ethyl group having at least one but not more than two β -substituents selected from the group consisting of bromine, fluorine, methoxy, and acetoxy and at least one but not more than two α -substituents on the β -substituted ethyl group, the α -substituent being selected from the group consisting of chlorine, bromine, fluorine, hydroxy, methoxy, and acetoxy;

and wherein said siloxane polymer contains silanol groups

7. (previously presented) The siloxane polymer of claim 6 wherein the α -substituent is the same as the β -substituent on the ethyl group.

8-9. (canceled)

10. (currently amended) A photo and thermally labile siloxane polymer which undergoes transformation to SiO_2 -rich films by the elimination of β -substituted alkyl groups, obtained from the hydrolysis and condensation polymerization of an organosilane containing an alkyl group substituted in the position β to silicon, the organosilane having the general formula:



where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

R is an alkyl group having at least one but not more than two substituents in the position β to silicon that are electronegative;

and wherein said siloxane polymer ~~The siloxane polymer of claim 1 wherein the siloxane polymer~~ contains about 20 to about 50 silanol groups per 100 silicon atoms.

11. (currently amended) The siloxane polymer of claim ~~[[1]]~~ 10 wherein the siloxane polymer is obtained from homopolymerization of the organosilane.

12. (currently amended) The siloxane polymer of claim ~~[[1]]~~ 10 wherein the siloxane polymer is obtained from copolymerization of the organosilane with an alkoxysilane.

13. (previously presented) The siloxane polymer of claim 12 wherein the alkoxysilane is selected from the group consisting of tetraethoxysilane (TEOS), tetramethoxysilane (TMOS), methoxytriethoxysilane, triethoxychlorosilane, bis(trimethoxysilyl)-ethane, methyltriethoxysilane, vinyltriethoxysilane, pentafluorophenyltriethoxysilane and tridecafluorooctyl-1H,2H,2H-octyltriethoxysilane.

14. (currently amended) The siloxane polymer of claim ~~[[1]]~~ 10 which further comprises a siloxane polymer obtained from copolymerization of the organosilane with a hydride-functional silane selected from the group consisting of trichlorosilane and triethoxysilane.

15. (currently amended) The siloxane polymer of claim ~~[[1]]~~ 10 which further comprises a siloxane polymer obtained from copolymerization of the organosilane with an organotrichlorosilane selected from the group consisting of ethyltrichlorosilane, methyltrichlorosilane and phenyltrichlorosilane.

16. (currently amended) The siloxane polymer of claim ~~[[1]]~~ 10 wherein the reaction is carried out by the addition of the organosilane to an aqueous medium.

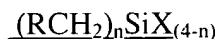
17. (previously presented) The siloxane polymer of claim 16 wherein the siloxane polymer is extracted from the aqueous medium with an organic solvent.

18. (currently amended) A homogeneous liquid containing the siloxane polymer of claim [[1]] 10 and an organic solvent for dissolving the ~~silsesquioxane~~ siloxane polymer, the solvent being selected from the group consisting of aromatic hydrocarbons and their epoxy-functional derivatives, glycol ethers, alkanes and their epoxy-functional derivatives, ketones, esters, orthoesters, chlorinated hydrocarbons, chlorofluorocarbons and alcohols.

19. (previously presented) The homogeneous liquid according to claim 18, wherein the organic solvent is selected from the group consisting of diglyme, methoxypropanol and toluene.

20. (canceled)

21. (currently amended) ~~The siloxane polymer of claim 1 wherein, in the general formula for the organosilane,~~ A photo and thermally labile siloxane polymer which undergoes transformation to SiO₂-rich films by the elimination of β-substituted alkyl groups, obtained from the hydrolysis and condensation polymerization of an organosilane containing an alkyl group substituted in the position β to silicon, the organosilane having the general formula:



where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

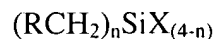
R is a methyl group having at least one but not more than two acetoxy substituents;

and wherein said siloxane polymer contains silanol groups.

22-25. (canceled)

26. (new) A homogeneous liquid containing a photo and thermally labile siloxane polymer which undergoes transformation to SiO₂-rich films by the elimination of β-substituted alkyl groups, obtained from the hydrolysis and condensation polymerization of an organosilane

containing an alkyl group substituted in the position β to silicon, the organosilane having the general formula:



where n is 1 or 2;

X is a halogen selected from the group consisting of chlorine, bromine, fluorine, and iodine; or an alkoxy selected from the group consisting of methoxy, ethoxy and propoxy substituents; and

R is an alkyl group having at least one but not more than two substituents in the position β to silicon that are electronegative;

and wherein said siloxane polymer contains silanol groups;

and an organic solvent for dissolving the siloxane polymer, wherein the organic solvent is diglyme and the solubility of the siloxane polymer in the organic solvent is at least 15% by weight, based on the weight of the solution.

27. (new) The siloxane polymer of claim 10 wherein the siloxane polymer is obtained from the hydrolysis and condensation polymerization of a β -substituted ethyltrichlorosilane, wherein the β -substituent is non-halogenated.

28. (new) The siloxane polymer of claim 10 wherein, in the general formula for the organosilane, R is a methyl group or ethyl group having at least one but not more than two substituents in the position β to silicon selected from the group consisting of bromine, fluorine, iodine, hydroxy, methoxy, ethoxy, and acetoxy.

29. (new) The siloxane polymer of claim 10 wherein, in the general formula for the organosilane, n is 1;

X is a halogen selected from the group consisting of chlorine and bromine or an alkoxy selected from the group consisting of methoxy and ethoxy substituents; and

R is a methyl group having at least one but not more than two substituents selected from the group consisting of bromine, fluorine, hydroxy, methoxy, and acetoxy.